

CLAIMS

1. A filtration system comprising, a first continuous flowpath for circulation of fluid therearound, a second continuous flowpath for circulation of fluid therearound after said circulation around said first continuous flowpath, a portion of the first continuous flowpath not being included in the second continuous flowpath and the second continuous flowpath having a lower volume than the first continuous flowpath, fluid circulating around each continuous flowpath being filtered so that fluid leaves said each continuous flowpath on filtration, means for passing fluid to the first continuous flowpath in response to said filtration of fluid circulating around the first continuous flowpath, and means for passing fluid to the second continuous flowpath from the portion in response to said filtration of fluid circulating around the second continuous flowpath.

2. A filtration system according to claim 1, wherein the filtration of fluid circulating around the first continuous flowpath comprises tangential filtration and the filtration of fluid circulating around the second continuous flowpath comprises tangential filtration.

3. A filtration system according to claim 1 or claim 2, wherein said filtration of fluid circulating around each continuous flowpath is performed by filtration means associated with both the first and second continuous flowpaths.

4. A filtration system according to claim 3, wherein the first continuous flowpath is associated with further filtration means that filters fluid circulating around the first continuous flowpath so that fluid leaves the first continuous flowpath on filtration.

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5. A filtration system according to claim 4, wherein the system comprises a plurality of filters, each filter defining a respective filter flowpath and having a respective filter medium disposed adjacent the corresponding filter flowpath for filtration of fluid passing through the corresponding filter flowpath, the first-mentioned filtration means comprising at least one but not all of the filters and the or each filter flowpath of said at least one filter being included in each continuous flowpath, and the further filtration means comprising the or each filter other than said at least one filter and the or each filter flowpath of said the or each other filter being included in the first but not the second continuous flowpath.

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6. A filtration system according to claim 5, wherein the fluid circulating around the first continuous flowpath passes in parallel through the filter flowpaths.

7. A filtration system according to claim 6, wherein the system comprises a manifold connected to each filter and included in the first continuous flowpath, the portion comprising at least part of the manifold.

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8. A filtration system according to claim 7, wherein the second continuous flowpath includes at least one bypass that allows fluid to bypass said at least part of the manifold during circulation of fluid around the second continuous flowpath.

9. A filtration system according to ^{claim 1} ~~any one of claims 1 to 8~~, wherein the means for passing fluid to the first continuous flowpath comprises a reservoir.

10. A filtration system comprising a plurality of filters, each filter defining a respective filter flowpath extending adjacent a respective filtration medium for tangential filtration by the filtration medium of fluid passing through the filter flowpath, and a manifold connected to each filter, the system being selectively operable in a first state in which the manifold and the filter flowpaths form part of a first continuous flowpath around which fluid circulates passing in parallel through the filter flowpaths and a second state in which fluid circulates around a second continuous flowpath including the filter flowpath of at least one but not all of the filters, the second continuous flowpath having a lower volume than the first continuous flowpath and fluid passing into the second continuous flowpath from the manifold responsive to tangential filtration in the second state.

11. A filtration system according to claim 10, wherein the second continuous flowpath includes at least one bypass that allows fluid to bypass at least part of the manifold during circulation of fluid around the second continuous flowpath.

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claim 10

12. A filtration system according to ~~any one of claims 7 to 11~~, wherein the manifold is located below the filters for drainage of fluid from the or each filter flowpath not included in the second continuous flowpath into the manifold during circulation of fluid around the second continuous flowpath.

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claim 10

13. A filtration system according to ~~any one of claims 5 to 12~~, including means for selectively restricting flow from the or each filter flowpath of said at least one filter.

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14. A filtration system according to ~~claim 8 or~~ claim 11, wherein the system includes a further manifold connected to each filter and included in the first continuous flowpath, one of the manifolds providing fluid to the filters and the other one of the manifolds receiving fluid from the filters during circulation of fluid around the first continuous flowpath, the second continuous flowpath including at least one bypass that allows fluid to bypass at least part of the further manifold during circulation of fluid around the second continuous flowpath.

claim 1

15. A filtration system according to ~~any preceding claim~~, wherein the system includes a pump for circulating fluid around the first continuous flowpath, the pump being inactive during circulation of fluid around the second continuous flowpath, and fluid from the pump passing into the second continuous flowpath in response to said filtration of fluid circulating around the second continuous flowpath.

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16. A filtration system according to claim 15, wherein the system includes a further pump for pumping fluid around the second continuous flowpath.

17. A filtration system according to claim 16, wherein the further pump has a lower throughput than the first-mentioned pump.

18. A filtration system according to claim 16 ~~or claim 17~~, wherein the further pump holds a lower volume of fluid than the first-mentioned pump.

19. A filtration system comprising a plurality of filters, each filter defining a respective filter flowpath extending adjacent a respective filtration medium for tangential filtration by the filter medium of fluid passing through the filter flowpath, and a manifold connected to each filter for circulation of fluid through the manifold and through, in parallel, the filter flowpaths, the system being selectively operable to pass fluid from the manifold to at least one but not all of the filters.

20. A filtration system according to claim 19, wherein fluid is passed from the manifold to said at least one of the filters via a pump located between the manifold and the said at least one filter.

21. A filtration system according to claim 19 ~~or claim 20~~, including means selectively operable to restrict the flow of fluid from said at least one filter.

22. A filtration system comprising a plurality of filters, each filter defining a respective filter flowpath extending adjacent a respective filtration medium for tangential filtration by the filtration medium of fluid passing through the filter flowpath, and a manifold connected to each filter, the system being selectively operable in a first state in which the manifold and the filter flowpaths form part of a first continuous flowpath around which fluid circulates passing in parallel through the filter flowpaths and a second state in which fluid flows in a second flowpath including at least a portion of the filter flowpath of at least one of the filters, the second flowpath having a lower volume than the first continuous flowpath.

23. ~~A filtration system substantially as hereinbefore described with reference to Figure 1 or Figure 3.~~

24. A filtration method comprising the steps of, circulating fluid around a first continuous flowpath, fluid circulating around the first continuous flowpath being filtered so that fluid leaves the first continuous flowpath on filtration, passing fluid to the first continuous flowpath in response to said filtration of fluid circulating around the first continuous flowpath, circulating fluid around a second continuous flowpath having a lower volume than the first continuous flowpath, a portion of the first continuous flowpath not being included in the second continuous flowpath, fluid circulating around the second continuous flowpath being filtered so that fluid leaves the second continuous flowpath on filtration, passing fluid to the second continuous

flowpath from the portion in response to said filtration of fluid circulating around the second continuous flowpath.

25. A method according to claim 24, wherein the filtration of fluid circulating  
5 around the first continuous flowpath comprises tangential filtration and the filtration of fluid circulating around the second continuous flowpath comprises tangential filtration.

26. A method according to claim 24 or claim 25, wherein said filtration of fluid  
10 circulating around each continuous flowpath is performed by filtration means associated with both the first and second continuous flowpaths.

27. A method according to claim 26, including filtering fluid circulating around  
15 the first continuous flowpath with further filtration means such that fluid filtered by the further filtration means leaves the first continuous flowpath on filtration.

28. A method according to claim 27, wherein the first-mentioned filtration  
means includes at least one filter and the further filtration means includes a further at  
least one filter, each filter defining a respective filter flowpath and having a respective  
20 filter medium disposed adjacent the corresponding filter flowpath for filtration of fluid passing through the corresponding filter flowpath, the or each filter flowpath of the first-mentioned at least one filter being included in each continuous flowpath and the

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or each filter flowpath of the further at least one filter being included in the first but not the second continuous flowpath.

29. A filtration method according to claim 28, wherein said circulation of fluid around the first continuous flowpath comprises passing fluid in parallel through the filter flowpaths.

30. A filtration method according to claim 29, wherein said circulation of fluid around the first continuous flowpath comprises passing fluid through a manifold connected to each filter, said portion comprising at least part of the manifold.

31. A filtration method comprising the steps of: providing a plurality of filters, each filter defining a respective filter flowpath extending adjacent a respective filtration medium for tangential filtration by the filtration medium of fluid passing through the filter flowpath, and a manifold connected to each filter; circulating fluid around a first continuous flowpath formed partly by the manifold and the filter flowpaths, the fluid passing in parallel through the filter flowpaths; and circulating fluid around a second continuous flowpath including the filter flowpath of at least one but not all of the filters; the second continuous flowpath having a lower volume than the first continuous flowpath and fluid passing into the second continuous flowpath from the manifold in response to tangential filtration by said at least one filter.



a 32. A method according to claim 30 or claim 31, wherein fluid drains from the or each filter flowpath not included in the second continuous flowpath into the manifold during circulation of fluid around the second continuous flowpath.

a 5 33. A method according to <sup>claim 24</sup> ~~any one of claims 24 to 32~~, wherein said circulation around the first continuous flowpath comprises pumping fluid around the first continuous flowpath with a pump included in the first continuous flowpath, the pump being inactive during circulation of fluid around the second continuous flowpath and fluid from the pump passing into the second continuous flowpath in response to said filtration of fluid circulating around the second continuous flowpath.

15 34. A filtration method comprising the steps of: providing a plurality of filters, each filter defining a respective filter flowpath extending adjacent a respective filtration medium for tangential filtration by the filter medium of fluid passing through the filter flowpath, and a manifold connected to each filter; circulating fluid through the manifold and through, in parallel, the filter flowpaths; and passing fluid from the manifold to at least one but not all of the filters.

20 35. A method according to claim 34, wherein said passage of fluid comprises passing fluid via a pump located between the manifold and the said at least one filter.

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5 36. A filtration method comprising the steps of: providing a plurality of filters, each filter defining a respective filter flowpath extending adjacent a respective filtration medium for tangential filtration by the filtration medium of fluid passing through the filter flowpath, and a manifold connected to each filter; circulating fluid around a first continuous flowpath formed partly by the manifold and the filter flowpaths, the fluid passing in parallel through the filter flowpaths; flowing fluid in a second flowpath including at least a portion of the filter flowpath of at least one of the filters; the second flowpath having a lower volume than the first continuous flowpath.

10 37. A filtration method substantially as hereinbefore described with reference to Figure 1 or Figure 3.

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